



Results of Viability and Environmental Testing of Seeds of Plants *Atriplex Canescens* and *Atriplex Undulata*

Khamraeva Gulnoz Usmonovna

Doctor of philosophy agricultural, Research Institute of karakulma and Desert Ecology, Samarkand City

Annotation: the article provides information about the long-term preservation of seeds of plants *Atriplex undulata* and *Atriplex canescens*, in contrast to local species, the results of environmental testing of the *Atriplex undulata* plant.

Keywords: variety testing, survival, seed viability, germination energy, laboratory conditions germination, phytomeliorant, small seeds, large seeds.

Introduction: Strengthening the karakulma feed stocks is crucial, according to the president of the Republic of Uzbekistan's March 2018 PQ-3603 resolution "on measures for the rapid growth of the Karakulma sector." One of the important responsibilities is to coordinate the seed production of agricultural products, as well as the primary seed production of promising types and varieties of desert fodder plants, according to the resolution of the president of the Republic of Uzbekistan dated April 27, 2018 PQ-3683. The state record now has 15 promising kinds of desert fodderbop plants, but the primary germination of these varieties has not been established properly.

In order to guarantee the safety of our food supply, pasture livestock must be developed sustainably in our nation. In turn, this calls for enhancing low-yield pastures in order to increase the industry's feed reserves. The ability to significantly increase the productivity and feed quality of desert pastures is offered by more than 15 promising types of desert fodder crops. These types have the ability to thrive in the desert's dry climate and produce consistently high yields over a long period of time. Organizing the seed production of these types and the growing of their seeds in the necessary amounts is one of the most critical jobs.

The goal of the research is to examine the viability of seeds from the plants *Atriplex canescens* and *Atriplex undulata* as well as the outcomes of the *Atriplex undulata* plant's environmental testing. The seeds of the *Atriplex undulata*, *Atriplex canescens*, the jayhun variation of the Ember, and the Izen "Otavny" variety served as the research's main source.

Research approach. Using widely established techniques, researchers in the field of seed science examined the energy of germination, overall fertility, and cold- stratified seeds in laboratory conditions. B in the biostatistical evaluation of the collected data. A. Dospekhov's (1979) stylistic elements were applied.

Analysis of research results. *Atriplex canescens* and *Atriplex undulata* seeds retain their germination even after being stored for a long time, which is a crucial farming characteristic of the species. The majority of seeds from several desert fodderbop plant species lose their germination relatively quickly. The seeds that were harvested this year are utterly inappropriate for planting the following year due to the economic climate; they completely lose their ability to germinate. *Atriplex canescens* seeds, on the other hand, have the ability to maintain their own germination for a long time. Other species of

phytomeliorants did not exhibit this characteristic of its. In a lab setting, the seeds developed in the garrabchul climate and stratified in the cold were examined.

Table 1 Germination of seeds of *Atriplex canescens* and *Atriplex undulata* in field conditions, % (2013-2015).)

Seed processing methods before planting	Number of sprouted grass, PCs M ±m			Excitability, (on average in 3) M ±m	In relation to control, %
	2013 й	2014 й	2015 й		
Atriplex canescens					
Control	11,1 ± 0,9	12,4 ± 1,3	9,4 ± 1,2	10,9	100
Seeds stored in the external environment in the sand for 30 days (January-February)	18,1 ± 2,1	19,2 ± 1,4	21,3 ± 1,7	19,05	174,7
Keeping in the dark at 7-120s for 30 days in soaked chalk bags (January-February)	26,4 ± 1,8	29, 2 ± 1,5	25,6 ± 2,4	27,06	248,2
Atriplex undulata					
Control	13,0 ± 1,4	11,2 ± 1,2	12,6 ± 1,8	12,2	100
Seeds stored in the external environment in the sand for 30 days (January-February)	17,8 ± 1,8	13,6 ± 1,4	19,4 ± 1,4	18,5	151,6
Keeping in the dark at 7-120s for 30 days in soaked chalk bags (January-February)	24,7 ± 1,7	26,2 ± 1,1	28,6 ±2,1	26,5	217,2

In Petri dishes with substrate-sand conditions, experiments were conducted using the TM-80 thermostat at a constant ignition temperature of +230 s. experiments last 12 to 25 days. Unish Energy has been shown to have fallen over the last five years by 11.4%, going from 44.6% to 33.2%. On the other side, the experimentation's length is nearly twice as long. Their initial harvest's seed germination rate was -67.6%; in the third year, it was 66.3%, or essentially unchanged; in the fifth year, it was 63.2%, or little less.

Table 2 Germination in laboratory conditions, depending on the shelf life of seeds, (Samarkand, 2004-2010.)

Shelf life, year	Unish energy, %	General excitability, %	Duration of experiments, day
<i>Atriplex canescens</i>			
1	44,6	67,6	12
2	42,4	68,7	13
3	41,3	66,3	16
4	36,9	62,4	18
5	33,2	63,2	21
<i>Atriplex undulata</i>			
1	42,3	64,8	14
2	40,1	63,9	15

3	36,8	63,4	17
4	35,1	60,1	21
5	32,3	50,8	28

When the solubility of seeds from the *Atriplex undulata* plant was also tested based on their shelf life, it was discovered that seeds do not lose their solubility with time (Table 1). The experiment's findings demonstrate that *Atriplex canescens* seeds remain viable for 5 years, proving that the seeds are suitable for use on a farm.

2015 saw the planting of 4.0 hectares of *Atriplex undulata*, Ashgabat "Jaykhun," and Izen "Otavny" varieties on the grounds of the barberry complex in Kagan district, Bukhara region. Loam desert soils that are just weakly salinized make up the soil in farm pasture regions.

Studies conducted in Australia have also demonstrated that the seeds of perennial species, many of which belong to the genus *Atriplex*, do not lose their fertility for a long time (Arazia N.Q. Ras. 1988. p. 13-16; Makhmudov M. M., Bekchanov B.; 2005. 189-193 B.).

Table 3 *Indicators of farm characteristics of desert fodderbop plant species and varieties (barberry complex in Kagan district, Bukhara Region, October 2016)*

Plant species and varieties	Bush number, thousand pieces/ha	Annual growth, CM	Number of generative branches, PCs./Bush	Individual phytomassa, r	Individual seed crop, r
<i>Atriplex undulata</i>	12,6 ± 2,3	72,4 ± 0,9	18,8 ± 1,1	230,6 ± 18,1	73,2 ± 4,2
The "Jaykhun" variety of the ember	11,3 ± 1,7	63,9 ± 1,1	10,4 ± 0,6	220,6 ± 9,6	69,6 ± 5,6
Izen's" Otavny " variety	13,6 ± 0,8	59,7 ± 0,9	6,56 ± 0,4	120,3 ± 8,6	26,3 ± 7,2

The *Atriplex undulata* variety had 12.6 thousand plants per hectare, the Izen "Otavny" variety had 13.6 thousand plants per hectare, and the "Jaykhun" variety had 13.6 thousand plants per hectare, according to an evaluation of the farm characteristics of plant species and varieties conducted in the fall of 2016. Plants' annual growth indicators ranged from 60 to 72 cm, with the *Atriplex undulata* species recording the highest indicator at 72.4 cm and the Izen "Otavny" variety recording the lowest indication at 59.7 cm. The "Jaykhun" variety of the embers' annual growth indicator was discovered to be 63.9 CM.

In the second year of plant life, it was found that each Bush of the *Atriplex undulata* variety produced 18.8 generative branches on average, compared to 10.4 for the "Jayhun" type of embers and 6.5 for the "Otavny" variety of the Izen. The *Atriplex undulata* species outperformed the other tested domestic plant varieties in terms of indicators like annual growth, bushings, and seed yield. For example, the *Atriplex undulata* species' average bush phytomassage was 230.6 G, and its average seed yield was 73.2 G, compared to 120.3 and 26.3 G for the Izen "Otavny" variety, and 69.6 G for the and.

In these circumstances, the *atriplex undulata* plant has a more vigorous development and germination than the Jayhun variety of the embers and the Otavny variety of the Izen, which has the ability to accumulate 2 times more hay and 2.5 times more seed yield than the Otavny variety of the Izen.

Accordingly, data from the *Atriplex undulata* Variety's initial environmental test show that all species and varieties tested in saline loam soil conditions are well adapted to growth and development and have the property of accumulating hay and seed yields in specific amounts in the second year of life.



Figure 1. Atriplex canescens flower set



Figure 2. Atriplex canescens seeds

Conclusion. In contrast to domestic species, the viability of seeds from the plant species *Atriplex canescens* and *Atriplex undulata* is preserved for many years. *Atriplex canescens* and *Atriplex undulata* seeds both germinate at a rate of 57.8% and 50.8%, respectively, even after being stored for five years. These seeds are suitable for use on farms.

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